CS101 Final term Long Questions Solved…

Question No: 1 (Marks: 1)

What is heuristic?

Heuristic is a procedure that usually, but not always, works or that gives nearly the right answer.

Question No: 2 (Marks: 1)

In programming, what is an object?

Object is a named collection of properties (data, state) & methods (instructions, behavior).

Question No: 3 (Marks: 2)

What is spreadsheet? List any two jobs that it can do.

A spreadsheet is a grid that organizes data into columns and rows. Spreadsheets make it easy to display information, and people can insert formulas to work with the data.

Electronic replacement for ledgers

Charts

Financial-forecasting.

Question No: 4 (Marks: 2)

In JavaScript, what is event handling? What are the two types of events?

In JavaScript capturing events and responding to them is event handling. The system sends events to the program and the program responds to them as they arrive.

1. Events can include things a user does - like clicking the mouse.

2. Events that the system itself does - like updating the clock.

Question No: 5 (Marks: 3)

Explain how many ways businesses monitor their employees?

• Systems are available that monitor almost every key stroke that an employee makes on a computer.

• Systems are available that read and censor all incoming and outgoing eMail.

• It is quite straight forward to monitor where you surf the web.

Question No: 6 (Marks: 3)

What is difference between Design and System Architecture?

System architecture is the conceptual design that defines the structure and/or behavior of a system. Whereas designs it as an independent, self-contained system.

Question No: 7 (Marks: 3)

What are the Sub categories of Artificial Intelligence? Briefly explain any two.

1. **Expert systems:**

Expert system is that system which is in some limited sense, can replace an expert.

2. **Robotics:**

Robotics is an automatic machine that performs various tasks that were previously done by humans.

Question No: 8 (Marks: 5)

How many ways are there to call a function in a program? Explain with example.
Two Ways of Calling Functions:
Functions do not run automatically. When the page loads, each function waits quietly until it is told to run.
1. A function calls appearing as a complete statement:
function popUp(message) {
window.alert(message) ;
}
popUp("Warning!") ;
2. A function calls appearing as part of a statement. Definitions of such functions include a 'return' statement:
function add(a, b) {
c = a + b ;
return c ;
}
sum = add(2, 4) ;
document.write(sum) ;
Question No: 9 (Marks: 5)
Elaborate the ' + ' operator and its constraints with the help of examples.
The + Operator Used on Strings. The + operator can also be used to add string variables or text values together. To add two or more string variables together, use the + operator.
Example:
txt1="What a very";
txt2="nice day";
txt3=txt1+txt2;
Now txt3 will be having this value "What a very nice day".
txt3=txt1+txt2; this statement due to + sign.
Question No: 10 (Marks: 10)
Write a JavaScript program having two functions sum and mean.
The web page will ask the user to enter five values to be added.
After taking input it will calculate the sum and mean of those values by calling sum and mean functions.
Question No: 11 (Marks: 10)
Define the following terms.
Object
Object is a named collection of properties (data, state) & methods (instructions, behavior).
Event Handler
An event handler is a command which calls a function when an event happens, such as the user clicking a button.
Local Variable
Declaring variables (using the var keyword) within a function makes them local. They are available only within the function and hold no meaning outside of it.
Scope of Variable
Defining the space in which a variable is effective is known as defining the scope of a variable. A variable can be either local or global in scope.
Array
Array is an indexed list of elements.

Question No: 12 (Marks: 1)

What BIOS stands for?

BIOS stand for Basic input/output system.

Question No: 28 (Marks: 1)

List down the Analytical Engine's components name (any two)

Input

Memory

Processor

Output.

Question No: 13 (Marks: 2)

Why uploading a web page is important? Describe in 2 – 3 lines.

By only uploading webpage we could place our information so that other can reach up to what we have loaded. Upload means make available our data or information for the world web browsers.

Question No: 14 (Marks: 3)

What is the difference between microprocessors and microcontrollers? Give one example of both.

The microprocessor is electronic equipment which can perform several functions and also processing of data and information present in a computer, while microcontroller can only perform one function for that its design.

Example:

Microprocessor: Pentium 4 & Personal Computer.

Microcontroller: Electrical device, washing machines, microwave ovens, telephones etc.

Question No: 15 (Marks: 5)

Differentiate uni-Processor OS from Multi-Processor OS.

Uni-processor OS'es is designed to schedule tasks on a single uP only whereas Multiprocessor

OS'es can control computers having multiple uPs, at times 1000's of them.

Question No: 16 (Marks: 5)

Why do we call JavaScript an Object-based Language?

JavaScript shares many similarities with object-oriented languages, and therefore is called an object-based language.

Question No: 17 (Marks: 1)

When does recursion occur?

Question No: 18 (Marks: 1)

What are the types of computer network according to the distance between nodes?

There are two types of networks.

1. LAN (Local Area Network)

2. WAN (Wide Area Network)

Question No: 19 (Marks: 2)

What is meant by semantic error?

Occur when a statement executes and has an effect not intended by the programmer and Often times occur only in unusual & infrequent circumstances.

Question No: 20 (Marks: 2)

List down the names of two array methods available in JavaScript.

1. sort( ) [sorts elements in alphabetical order].

2. reverse( ) [Reverses the order of elements].

Question No: 21 (Marks: 3)

How can you define a consistent web design? Why is it needed?
A consistent good designed website is generated for general public that allows users to attain what they want as quickly as possible without spending much effort. A consistent good design is needed to assists the user in recovering from errors.

Question No: 22 (Marks: 3)

How can we include images in a web page using HTML and Java script?
Image in HTML
<IMG src=URL, alt=text height=pixels width=pixels align="bottom|middle|top">
Image in Javascript
Images in JavaScript can be manipulated in many ways using the built-in object Image. Additional properties to HTML are hspace, vspace & lowsrc.
Example: It can be used by many handlers like, onAbort, onLoad & onError

Question No: 23 (Marks: 3)

The event handler attribute consists of three parts. Write about each of them.
1. The identifier of the event handler.
2. The equal sign.
3. A string consisting of JavaScript statements enclosed in double or single quotes.

Question No: 24 (Marks: 5)

What is a packet in the network environment? What kind of information does it contain?
A packet is the smallest unit of data transmitted over a computer network. It's a message to be transferred over the network is broken up into small packets by the sending computer.
Each packet contains the following info:
–Sender's address
–Destination address
–Data
–Error-recovery info.

Question No: 25 (Marks; 5)
Composed
Suppose we have a big project. Draw hierarchy of the people involved in the project?
Executive Team
CEO, COO,
CMSO
Quality
Architecture
Team
Business
Development Team
Technology
Transfer
Team
Process
Team
Quality
Assurance Team
Support

Team
Configuration
Management Team
Development
Team D
Development
Team C
Development
Team A
Development
Team B

Question No: 26 (Marks: 10)

Write down HTML and JavaScript code for the following requirements:
Declare an Array with the identifier SUBJECT having length 5. Assign following values
to the array elements:
MIS, Java, Algorithms, Databases, C++
Show all values in reverse order.

Question No: 27 (Marks: 10)

How instant messaging works? Write the steps involved in this process.
The Instant Messaging services available allow us to maintain a list of people (contacts)
that we interact with regularly. We can send instant messages to any of the contacts in
our list as long as that contact is online.
Following steps are involved in IM working:
1. User commences the IM client.
2. IM client finds the IM server & logs in.
3. It launches communication info (IP address, etc) to the IM server.
4. IM server finds user's contacts & sends him/her the communication info.
5. IM server also notifies the contacts that the user is online; sends his/her
communication info to them.
6. The user's & the contact's IM clients are ready to communicate directly (P2P).
7. As new contact has come online, IM server informs them about the user being
online & vice versa.
8. Multiple, real-time chat are possible.
9. When the user logs-off, his/her IM client informs the IM server.
10. IM server wipes away the temporary file and informs the user's contact's about
his/her 'offline' status.

Question No: 28 (Marks: 10)

**What kind of operations takes place inside Microprocessors Building Blocks? Enlist
them with brief description.**
Bus Interface Unit: The bus interface unit is the part of the processor that interfaces with
the rest of the PC. Its name comes from the fact that it deals with moving information
over the processor data bus.
Instruction Decoder: The *instruction decoder* of a processor is a combinatorial circuit
sometimes in the form of a read-only memory, sometimes in the form of an ordinary
combinatorial circuit.
Arithmetic & Logic Unit (ALU): An arithmetic and logical unit **(ALU)** also known as
"Integer Unit" is one of the core components of all central processing units. It is capable
of calculating the results of a wide variety of common computations.

Floating-Point Unit (FPU): A **floating point unit** (**FPU**) is a part of a CPU specially designed to carry out operations on floating point numbers.

Registers: A **register** is a device for storing data. It is a small amount of very fast computer memory used to speed the execution of computer programs by providing quick access to commonly used values.

Control Unit: A control unit is the part of a CPU or other device that directs its operation. The outputs of the unit control the activity of the rest of the device.

Instruction Set: This is the set of machine instructions that a microprocessor recognizes and can execute. It is the only language microprocessor knows.

Question No: 29 (Marks: 8)

a) Differentiate between SMTP and POP3 server. (3 marks)

SMTP (Simple Mail Transfer Protocol) is a protocol used to send and receive eMail messages over a TCP/IP network. Whereas POP3 (Post Office Protocol) is a protocol used for receiving eMail messages. A POP3 server maintains text files (one file per user accounts) containing all messages received by a user. eMail client interacts with the POP3 server for discovering and downloading new eMail messages.

b) How can you justify that a DBMS is better to use than Flat-file database? (5 marks)

A DBMS takes care of the storage, retrieval, and management of large data sets on a Database. It provides SW tools needed to organize & manipulate that data in a flexible manner.

Whereas in Flat-file database the text file format makes it hard to search for specific information or to create reports that include only certain fields from each record.

Question No: 30 (Marks: 8)

What will be the output of this programme? Write comments where you find "//" symbol in the following code.

```html
<html>
<head>
<script language="JavaScript">
function doSomething() { // 1
setTimeout('doSomething()',10000); // 2
}
</script>
</head>
<body onLoad="doSomething()"> // 3
document.write("Virtual University of Pakistan");
</body>
</html>
```

// 3 document.write("Virtual University of Pakistan");

Question No: 31 (Marks: 8)

a) How Trojan Horses and Worms affect a computer system? What guidelines should be adopted to troubleshoot with malicious software? (6 marks)

Trojan horses are stand-alone programs. The look like what they are not and appear to be something interesting and harmless (e.g. a game) there execution results in destruction. Worms only make copies of themselves on the infected computer.

Following guidelines should be adopted to troubleshoot with malicious software:

• Download SW from trusted sites only.

• Do not open attachments of unsolicited eMails.

• Use floppy disks and CDROMs that have been used in trusted computers only.
• When transferring files from your computer to another, use the write-protection notches.
• Stay away from pirated SW.
• Regularly back your data up.
• Install Antivirus SW; keep it and its virus definitions updated.

b) Which part of a virus consists of malicious computer instructions? (2 marks)
Payload is the part of virus that generally consists of malicious computer instructions.

Question No: 32 (Marks: 1)

What is the function of Network Interface Card?
NIC is an I/O device that plugs into the computer and it enables it to communicate over a network.

Question No: 33 (Marks: 1)

In programming, what is a loop?
A loop is a programming language statement which allows code to be repeatedly executed.

Question No: 34 (Marks: 2)

What is an intelligent system?
Intelligent system is a SW programs or SW/HW systems designed to perform complex tasks employing strategies that mimic some aspect of human thought.

Question No: 35 (Marks: 2)

Why hub is used in networks?
Hub is networking equipment and a device which connects several computers to form a network. In a network the NIC translates the message into electrical pulses suitable for the computer network in use & transmits it to the hub through the cable. The hub receives them and forwards them to all computers connected to it.

Question No: 36 (Marks: 3)

What are Trojan Horses?
Trojan Horses are unlike viruses, they are stand-alone programs. The look like what they are not. They appear to be something interesting and harmless (e.g. a game) but when their execution result in destruction.

Question No: 37 (Marks: 3)

Elaborate with examples Vector or Object oriented graphics.
Vector or Object-Oriented Graphics treats everything that is drawn as an object. Objects retain their identity after they are drawn. These objects can later be easily moved, stretched, duplicated, deleted, etc
They are resolution independent and relatively small file size.
Examples: swf, svg, wmf, ps.

Question No: 38 (Marks: 3)

How can you define a consistent web design? Why is it needed?
A consistent web design should be the one that achieves the result that it was designed for, that result can only be achieved by giving the user what he wants, as quickly as possible, without her/him expending much effort. One definition of usability: Let the user have what he wants, quickly, without much effort "Quickly" is important!

Question No: 39 (Marks: 5)

What are the advantages of multimedia presentations? Write any five.
Following are the advantages of multimedia presentations:
· Great tool for effectively communicating ideas to an audience

- · All electronic
- · Easy to make last minute changes
- · The undo feature encourages experimentation
- · More attractive; commanded more interest
- · May include animations, sound, video
- · Easy to catalog, store, and recall
- · Great tool for making presenter-free interactive material (e.g. self-learning tutorials)

Question No: 40 (Marks: 10)How virtual communities are formed? How these are different from otherCommunities? Give examples.

Virtual Communities are interest-based communities. Members with common interest Share ideas, ask questions, post answers and make announcements through mailing-lists, News groups or message boards. This is how they are formed. These communities are definitely very different from traditional ones. There are generally no bars on membership based on gender, race or religion. However, they may lack the respect for the individual and civility that are the norm within conventional, geography-based communities.

Question No: 41 (Marks: 1)
What does TCP/IP stand for?
Transmission Control Protocol/Internet Protocol

Question No: 42 (Marks: 1)
Why there is a need to use primary key in database ?
it is used to uniquely identify the records in the database.

Question No: 43 (Marks: 2)
What is image processing ?
It field of computer where we enhance and manipulate the graphics.
Like it is used to recover old photograph and by processing we can revive them like original form.

Question No: 44 (Marks: 2)
Define testing with respect to programming..
Testing is the process by which we try to determine the presence defects in a program.

Question No: 45 (Marks: 3)
How can we define a computer screen?
Use to display output of computer to the user. Computer screen is consists of pixels.

Question No: 46 (Marks: 3)
What is difference between Design and System Architecture?
System Architecture It is structure of a product or process
Design: It is start of the process of developing structure of system or product or we can its basic planning of making a system or product.

Question No: 47 (Marks: 3)
Write JavaScript code to convert the number 236.2363611111556 into currency format and JavaScript statement to show output.

```
Var input_amt = 236.2363611111556 ;
mid_data = input_amt.toString( ) ;
decimalPos = mid_data.indexOf( ".", 0 ) ;
final_amt = mid_data.substring( 0, decimalPos + 3 ) ;
document.write( final_amt + " Rs." ) ;
```

Question No: 48 (Marks: 5)

Show output of the following code:
```
for (i=0; i<=10; i++)
{
document.write("The number is " + i);
document.write("<br />");
}
```
The number is 0
The number is 1
The number is 2
The number is 3
The number is 4
The number is 5
The number is 6
The number is 7
The number is 8
The number is 9
The number is 10

Question No: 49 (Marks: 5)

What is a Relational Database? Give the names of any three RDBMS software. (2+3)
Database consist of two or more then two tables are called Relational database.
Oracle dabatbase
Sql Server
Access

Question No: 50 (Marks: 10)

Define the following terms.
Object
They are foundation of object oreineted lanauge.They are data structure contains data
fields and properiies and mothods
• http://vustudents.ning.com
• Event Handler
• An event handler is a command which is used to call a function when an event happens,
such as the user clicking a button or mouse.
•
• Local Variable
• Declaring variables within a function, makes them local .They are available only within
that function and hold no meaning outside of it
•
• Scope of Variable
• Space in which a variable is effective is known as the scope of a variable. In other

words we can say area where that variable is available for the use
• Array
Indexed collections of variable of same data types or we can say a Set of organized variables of same type.
•

Question No: 51 (Marks: 10)

What is the problem with Relational Database and what solution you can suggest for it?
When we store object orientated data into RDBMS it need to translate in to other form which is readable to that RDBMS. While we need that data back or we needed to get data from that stored data. Again it required to be translate back into readable form.
This dual processing process reduce the speed of reading back the data.
It required large knowledge base to implement.
Its implementation in small business it bit complex due to its complexity.

Question No:52 (Marks: 1)

What is the out put of the following JavaScript code ?
```
name="Ali Akbar";
document.write(name.charAt(4)) ;
```

Question No: 53 (Marks: 1)

What are the types of computer network according to the distance between nodes ?

The types of computer network according to the distance between nodes are:
1. **LAN**
2. **WAN**

Question No: 54 (Marks: 2)

What is meant by universal access of internet services ?

Universal access of internet services means same functionality to every one.

Question No: 55 (Marks: 2)

What is output of the following JavaScript code ?
```
Str="Virtual University of Pakistan";
document.write(str.substring(5,str.length)) ;
```

Question No: 56 (Marks: 3)

How can we include images in a web page using HTML and Java script?2011

Images in HTML

It is quite straight forward to include gif and jpg images in an HTML webpage using the <IMG> tag.
Format: <IMG src=URL, alt=text height=pixels width=pixels
align="bottom/middle/top">

Images in Java script

Images in java script can be manipulated in many ways using the built in object image.
Properties: name, border, complete, height, width, hspace, bspace, lowsrc, src
Methods: none
Event handler: on Abort, on error, on load etc.

Question No: 57   (Marks: 2)

What is the Data Normalization? Also define its goal.

Data normalization is to sort out complex data into simple form. It uses to simplify the complex information to make it more user-friendly.

Question No: 58   (Marks: 3)

What is the preferred organizational structure for the organization?

Preferred Organizational Structure for organization is hierarchal. Where there is different departments interconnected with each other and are been divided according to the functions they perform.

Question No: 59   (Marks: 3)

Differentiate Local and Global Variables.

Local variables are the variables have limited scope while global have bigger scope
Local variables are not accessed by others while global is accessible to every one
Local variable used by single user while global variable can be used by different users at time from all around.

Question No: 60   (Marks: 3)

Elaborate Vector or Object oriented graphics with at least one example.

Object Oriented Graphics are the graphics which are generally oriented towards the objects and have good quality to portray objects these graphics are object oriented and use in animation, games and movies as well.

Question No: 61   (Marks: 5)

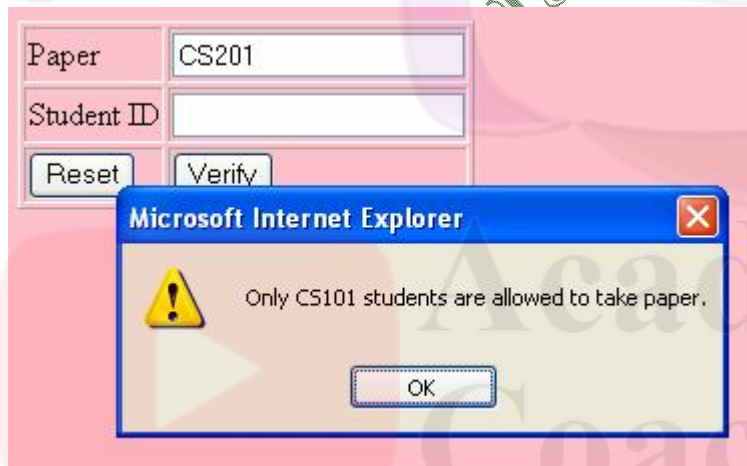How DoS attack is a cyber crime? For what cyber crime can be used?

DoS stands for Decline of Service and it is a cyber crime as it jams and in some cases shut down the targeted computer by sending too much unnecessary data packets to it which ultimately exceeds the normal processing eventually results the computer or server to stuck and unable to provide services to others. It can be used to destroy the fame and diminishing of no of users requesting information and services from that particular server or computer.

Question No: 62   (Marks: 5)

Write HTML and JavaScript code that displays a textbox and button on a web page. When user enters text in the text box and click the button it displays that text in the message box.

Question No: 63   (Marks: 10)

Write code for the following screen shot. The text field should not accept any other name except "CS101". On wrong entry it should give you a message as soon as you leave the text box.

Question No: 64   (Marks: 10)

Write a note on each of the following:
a. Vector or Object-Oriented Graphics:

b. Bit-Mapped or Raster Graphics:

Question No: 65   (Marks: 1)

 What are the elements of website design? Any one

Ans:

Elements of webdesign: There are in 3 elements of web design and below are there names:

1. Navigation scheme
2. Overall look and feel
3. Layout of information

Question No: 66   (Marks: 1)

 What kind of information can be stored in a database ?

- **Numbers, Booleans, text**
- **Sounds**
- **Images**
- **Video**

Question No: 67   (Marks: 2)

 Why hub is used in networks?

HUB: Hub is networking component which can be used to connect the networks and it can also be used to extend the size of networks.

Simply it can be explained as a common connection point for devices in a network. It contains multiple ports like 8port, 16 port , 23 port hubs

Question No: 68   (Marks: 2)

 Write names of the DoS attack's phases?

DoS (Denail of service): DoS attach has in total 3 phases and below they are listed:

1. **Search**
2. **Arm**
3. **Attack**

Question No: 69   (Marks: 3)

 What do you mean by FTP or File Transfer Protocol?

FTP: File transfer protocol was first introduced in 1973; it standardized the transfer of files between computers on a TCP/IP network (e.g internet).

It can download or upload files to a remote computer using the FTP protocol

Operations performed using FTP:

1. List, change, create folders on a remote computer
2. Upload and download files

Usage: Transferring Web content from the developer's PC to the Web server

Question No: 71   (Marks: 3)

How many types of errors can be found during a program developement? List them.

1. Syntax errors
2. Semantic errors
3. Run-time errors

Question No: 72   (Marks: 3)

Write code in JavaScript to display the odd numbers between 20 to 100 using **FOR** statement.

Note: No need to write whole HTML program. Just JavaScript code of require part is require.

Question No: 73   (Marks: 5)

Why the number of temporary workers are on the rise? Discuss main reasons?

Temporary workers:
Temporary workers are those workers which a company can hire to perform a certain task with in a defined time period.
Temporary workers are mostly consultants which move organization to organization to perform assigned workers.

Reasons:
1. Now-a-days; whole world is suffering from financial crisis, most of the companies have frozen there hiring, just in case they need a resource they are looking for a temporary worker for a specified time span to perform a specialized task and they just pay him for that period of time.
2. Temporary workers are mostly consultants which have expertise in a certain field and they are considered specialists in that field.
3. Employer doesn't need to train the temporary worker.

Question No: 74   (Marks: 5)

Write the JavaScript code for the Function SumOddNumbers(maxNumber) that can add non-negative odd numbers up to maxNumber and return their sum.
Java Script Code:

Question No: 75   (Marks: 10)

Define network organization? What are important features of network organization? (4+6)

Network Organization :

Network organization is an interfirm organization that is characterized by organic or informal social systems. A company or group of companies that has a minimum of formal structures and relies instead on the formation and dissolution of teams to meet specific objectives..

Features of Network Organization:

1. The organizations are learning that business can be done in a more effective manner if emphasis is placed upon cooperation, shared responsibility and networking:
   - Within the organization
   - And also with their customers and suppliers
2. Changes according to the demand of the times
3. Works effectively to meet the business goals of the organization
4. Everyone has a feeling that he/she is playing a major role in the organization which eventually gives a feel of ownership and because of that employee can put his best effort to accomplish a task.

Question No: 76   (Marks: 10)

Answer the following questions by looking at the code given below.

1- Which alert box will be displayed if variable 'marks' has value 75?

Ans: alert("Above average performance");

2- What is the range of the marks when the alert box displays the message "Average performance"?

Ans: else if (marks > 50 && marks < 60)

```
{
    alert("Average performance");
}
```

3- What is the range of the marks when the alert box displays the message "That's poor performance"?

Ans: The below mentioned alert box is displayed for all the marks less then

or equal to 50

```
else
{
    alert("That's poor performance");
```

```
            }
```

4- Which alert box will be displayed if variable 'marks' has the value 100?
   Ans: {

   alert("You've touched a century");

   }

1.   if (marks == 100)

2.   {

3.   alert("You've touched a century");

4.   }

5.   else if (marks >= 80 && marks < 100)

6.   {

7.   alert("That's good");

8.   }

9.   else if (marks >= 60 && marks < 80)

10.   {

11.   alert("Above average performance");

12.   }

13.   else if (marks > 50 && marks < 60)

14.   {

15.   alert("Average performance");

16.   }

17.   else

18.   {

19.   alert("That's poor performance");

20.   }

Question No: 77   (Marks: 1)

What is bandwidth?
Bandwidth is a capacity of communication channel of carrying data.

Question No: 78   (Marks: 1)

What is "My Personal Agent"?
A computer programe that work automatically and have voice interface

Question No: 79   (Marks: 2)

For what purposes FTP is used in networks ?
To download or upload files / data to a remote computer

Question No: 80   (Marks: 2)

How can you define a readable program?
A program that is easy to read & understand also easy to maintain and enhance.

Question No: 81   (Marks: 3)

What is the preferred organizational structure for the organization?
The Network Organization: It is becoming the preferred organizational structure.

Question No: 82   (Marks: 3)

How can you define a consistent web design? Why is it needed?
A consistent web design is Easy understandable, not with heavy graphics, easy
navigation. It is needed because most of the website views leave the site because of poor
navigation and not easy to understand, text and design is not clear etc.

Question No: 83   (Marks: 3)

Elaborate Vector or Object oriented graphics with atleast one example.
Vector treats everything that is drawn as object, they are resolution in dependent and
relatively small file size. For example swg, svg, wmf.

Question No: 84   (Marks: 5)

What are the advantages of multimedia presentations? Write any five.

Multimedia presentation is a great tool for effective communication:

Advantages:

1. Easy to make last minute change

2. More attractive

3. Can include animation, videos etc.

4. Better presentation easy to understandable for participants comparing to manual
    presentation.

5. Undo feature

Question No: 85   (Marks: 5)

Can a human doctor be replaced by an Expert System? Give reasons to support your
answer.

Expert System is a computer system which simulates the knowledge and expertise of a human expert. Yes, a human doctor can be replaced by an Expert System. Following are the reasons to support my answer:

1. A large database of knowledge can be added to and kept up to date, it can store more knowledge than a person.
2. The Expert System cannot FORGET or get facts wrong.
3. It survives forever. There is no loss of knowledge as there is when a doctor retires.
4. The Expert System can access specialist knowledge that a doctor may not have.

Question No: 86   (Marks: 10)

Explain the following issues of Data Management? (3+4+3)

1.   Data entry
2.   Data updates
3.   Data security

DATA ENTRY:
There is new data entered every day.
New customers are added every day.
Some of the data entry requires the manual entry into computer system
New data entry needs to be entered correctly

DATA UPDATES:
Old titles must be removed regularly
Data changes every time
Prices change
Transportation / shipping cost changes
Customer personal data changes
Schemes changing, new offers
Every new entry needs to be entered correctly

DATA SECURITY:
All data in the system is very critical to its operation, the security of the customer's personal data is most important. Most of the hackers are always trying for that type of information specially Credit Card Numbers.
This problem can be managed by using proper security arrangements and mechanisms that provides access to only authorized entities. System Security can be improved through, encryption, firewalls and updated Antivirus Softwares

Question No: 87   (Marks: 10)

Write a note on the followings

a. Image Preloading process

      b. Animated Gifs

IMAGE PRELOADING PROCESS:

The primary use of image preloading process is to download the image into the cache before it is actually needed to display.

PROCESS:
1.   An example of the image object is shaped using the NEW keyword
2.   The src property of this instance is set equal to the filename of the image to be pre-loaded
3.   This step starts the down-loading of the image into the cache without actually displaying
4.   When a pre-loaded image is required to be displayed, the src property of the displayed image is set to the src property of pre fetched image

ANIMATE GIFS:

We can save 16 gif images of the previous example in a single file in the form of an animated gif, and then used it in a regular <IMG> tag to display a moving image. However, JavaScript provide better control over the sequencing and the gap between the individual images.

Question No: 88   (Marks: 1)
In programming, what is an object ?
Answer: It is a named collection of properties and methods.

Question No: 89   (Marks: 1)
What kind of information can be stored in a database ?
Answer:
It can stored numbers, boleans, sound, video, images etc.

Question No: 90   (Marks: 2)
Define the key weakness of the web?
Answer:
Initially web was designed only for humans to read not for computers to understand it.

Question No: 91   (Marks: 2)
How many iterations would this 'for' loop run for?
for (x = 50 ; x < 0 ; x = x - 1) {
document.write (x) ;
}

Answer:
50 iterations

Question No: 92   (Marks: 3)

How can we define a Pixel?
Answer:
It is the smallest element of image which is spread with regular array on display and each element consist of particular color.

Question No: 93   (Marks: 3)

Write JavaScript code to convert the number 236.2363611111556 into currency format and JavaScript statement to show output.

Question No: 94   (Marks: 3)

Write code in JavaScript to display the odd numbers between 20 to 100 using **FOR** statement.

Note: No need to write whole HTML program. Just JavaScript code of require part is require.

Question No: 95   (Marks: 5)

How marketing strategies are changed with the progress in computing? How new marketing strategies are implemented?
Answer:
Marketing Strategy Changes with the new requirements of the modern era and the applications of the business. The web has changed marketing strategy from a mass focus to single person focus. We collected data and analyze accordingly to find out the behavior of the market and end users. In new marketing more advertising is being done through email and web and get feedback.

Question No: 96   (Marks: 5)

```
<script>

Number = new Array(5);



for(var i=1; i<=5 ; i=i+1)
{
Number[i]= abc*i;
```

```
}
Number.reverse();

for(j=0;j<5;j=j+1)
{
document.write(" "+Number[j]+"<BR>");
}
</script>
```

A) What should be output of above code?
B) Explain the highlighted lines of code?

Question No: 97   (Marks: 10)

Write a brief note on each of the following.
  - ¬ FTP
  - ¬ Telnet
  - ¬ Instant messaging
  - ¬ VoIP

FTP: File Transfer Protocol: This protocol is used to upload and download the files on remote computers.

Telnet: FTP allows file operations only while Telnet can log on to a computer of other users through TCP/IP network and use like a local user, it help in testing of remote web server.

Instant Messaging: This is the service of messaging provided on the internet like MSN messenger, Yahoo messenger, through which we interact people randomly whenever required.

VoIP: Voice over IP, It is used to transmit the voice from one IP to another IP, In which voice is first broken down and then transmitted over a network.

Question No: 98   (Marks: 10)

What are Commonsense Guidelines to avoid viruses? Discuss about Antivirus as well.

Answer:

Commonsense Guidelines to avoid viruses are as follows:
  1. Do not open attachment of unwanted emails.
  2. Don't used copied/pirated Softwares
  3. Regularly place data somewhere as backup
  4. Use Registered and Trusted Softwares only.
  5. Install Antivirous in the system
  6. Update your Windows and softwares with the passage of time.
  7. Scan before using any external device with your system as USB Device.

Antivirus:

This is the software design for preventing your system from harmful effects and maintain the speed of computer. These softwares are available on the CD's and DVD's. These softwares continuously monitor the systems and aware when any harmful virus is detected and asked for the further operations. Some automatically remove the viruses from the system.

Question No: 99   (Marks: 1)

What does WAN stand for?

Wide Area Network – A network in which computers are separated by great distances, typically across cities or even continents.

Question No: 100   (Marks: 2)

Why hub is used in networks?

The network traffic controller – components of convential computer networks. Hub is used to connect the different computers in the network i.e. to the server.

Question No: 101   (Marks: 2)

What is output of the following JavaScript code ?
    Str=''Virtual University of Pakistan'';
  document.write(str.substring(5,str.length)) ;

Question No: 102   (Marks: 3)

Explain how many ways businesses monitor their employees?

Systems are available that monitor or most every key stroke that an employee makes on computer. Systems are available that read and sensor all incoming and outgoing email. It is quite straight forward to monitor where you surf and when.

Question No: 103   (Marks: 3)

Diffentiate Local and Global Variables.

Local or function level variable effective only in the function in which they are declared while globale variables visible everywhere on the webpage. Declaration variables using the var keyword within a function makes them local. They are available only within the function and hold no meaning outside of vs global.

Question No: 104   (Marks: 3)

Elaborate Vector or Object oriented graphics with atleast one example.

Treats everything that is drawn an object. Objects retain their identity after their drawn. These objects can later be easily moved stretched duplicated deleted etc are resolution independent relatively small size. e. g. swf, wmf,

Question No: 105   (Marks: 5)

Show output of the following code:

```
for (i=0; i<=10; i++)
{
document.write("The number is " + i);
document.write("<br />");
}
```

The number is 0
The number is 1
The number is 2
The number is 3
The number is 4
The number is 5
The number is 6
The number is 7
The number is 8
The number is 9
The number is 10

Question No: 106   (Marks: 5)

Why should we, as computing professionals, be interested in studying the social implications of our creations?

This is imp. Because of keeping the track of money wise while implementation actually and see the results. This fits with the organization or no. to check there is any side effects morally or no. we have to be very careful while creation of any system., error free, data loose recovery. Etc.

Question No: 107   (Marks: 10)

Write responsibilities of the followings

1.   Developer

   a) Module level design.
   b) Coding
   c) Unit testing

2.   Executive Team

a) Responsible for the day to day operations.
b) All the decision related issues.
c) Policy making and changing etc.
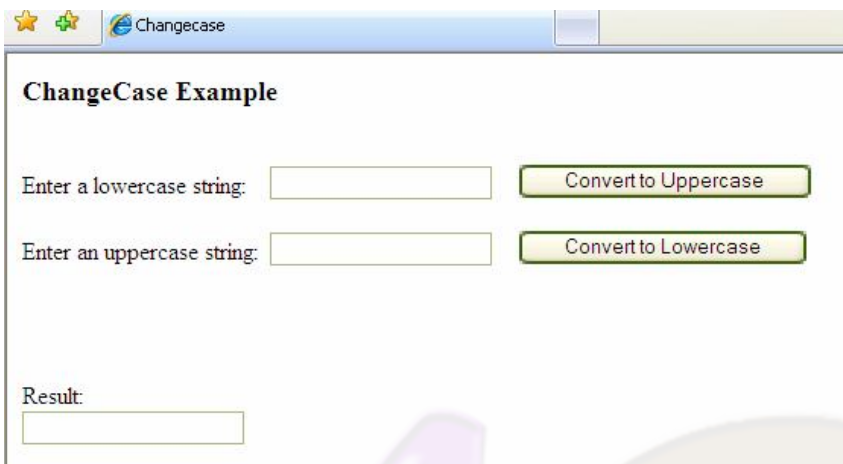
e.g. In this usually CEO and CMSO involves

1. He is responsible for the day to day operation and great organizational skills.

3.   Support Team

The support team is responsible for the complete operations such as arrangement for performing any kind of task from the starts to the end. Fully project handling and performing etc. In case of any maintenance they are the responsible for commencing the job and making sure to complete.

Question No: 108   (Marks: 10)
Write HTML and JavaScript code for the requirements shown in the diagram below. When ConvertoUpperCase button is pressed, the entered text is converted to upper case and result is displayed in the result text box. Similarly, when ConvertoLowerCase button is pressed, the entered text is converted to lower case and result is displayed in the result text box.

ChangeCase Example

Enter a lowercase string: [   ] [Convert to Uppercase]

Enter an uppercase string: [   ] [Convert to Lowercase]

Result:
[   ]

Question No: 109   (Marks: 2)

What are application softwares? List down the names of three application softwares.

Definition: Application Software are that software then can interact directory with the user for performance of respective type of work.

Following are the types of Application Softwares:-

- AutoCAD and Corel Draw
- Business Software
- Productivity SW
- Games Software

Question No: 110   (Marks: 2)

Why Local variable is preferred over Global variable ?

In my point of view Global variable has some advantage with Local variables is preferred due to the following reasons:-

When we declare any global variable in web page then in case of error and logic it's very difficult to see on which line this variable is used and what's his value if we have more than 2000 lines and all the functions in web page using that Global Variable so Global variables can make the logic of a Web page difficult to understand.

As we know we can use Global variable everywhere so Global variables also make the reuse and maintenance of your code much more complex.

Question No: 111   (Marks: 2)

In JavaScript, what is event handling? What are the two types of events?

In java script we can capture events on do some operation on the basis of that particular event. For example we want to load some data on web page then with the help of event handling we can do this operation by using onLoad event.
We can put Event handlers in the body of web page and also in attributes of HTML. From the attribute we can call any JavaScript function that will do his operation and come back. Now we can also interact with server side with the help of AJAX in JavaScript function.

In-Line Event Handling

We can place event handlers in the BODY part and also in HTML attributes the event handlers attributes consist of 3 parts the event handler, equal sign and a string of JavaScript statement enclosed in quotes (single or double). And one more thing these should be put in one line without newline due to this sophisticated event handling is not possible with in-line event handling.

Question No: 112   (Marks: 2)

What is Structured Vector Graphics ?

This is a plug-in that is required to view swf (flash) files in the web browser

Question No: 113   (Marks: 3)

What kind of new jobs are created because of computing? And which old professions are being eliminated?

Due to computing where people are getting benefits from automated systems on the other hand the people that are with KHATA system or Manual system and they don't know about computers are eliminated due to this reason and people take place of many people. We can see in the offices where before computer if there are four person required now only one person is required for example with the help of database we can store more than thousand of information and only one person is managing the whole data that is DBA. In the old system many people are writing the data in registers and then its also very difficult to find the specific record.

Now we can see companies are hiring:-

Data Entry Operators
System Engineers
Software Developer
DBA etc.

Question No: 114   (Marks: 3)

What are Logic- or Time-Bombs ?

It execute the payload when predetermined event occurs
For example use type particular phrase and particular data is reached.

Question No: 115   (Marks: 3)

What do you mean by FTP or File Transfer Protocol?

This protocol is used to upload the files on remote computers. This is used to transfer files between computer on TCP/IP network e.g. internet and now a day's many software are available for uploading files using FTP like Mozila FTP, cute FTP etc.

Question No: 116   (Marks: 5)

Why should we, as computing professionals, be interested in studying the social implications of our creations?

If we see our life then we can judge computing technology is changing our life fast if we compare with other technology.

We should highlight the mistakes and successes of the past. We should learn then and select future direction accordingly. Computers are keep becoming more and more powerful and gaining more autonomy.

Powerful Global Corporation.
The network Organization

Question No: 117   (Marks: 5)

How DoS attack is a cyber crime? For what cyber crime can be used?

DoS is the crime but of a new type. A new type for policing system is required to tackle such crimes.

Cyber Crime can be used to Damage a home computer, Bring down the Business, Weaken the financial and defense system of country.

What is a function? Give one example.

Answer:

Function is a reusable code (group of statement) that is executed when the function is called. It is also known as sub-program. Function is normally defined in the head section of the code.

Question No: 118 (Marks: 2)

What is an intelligent system?

Answer:

Intelligent systems are the programs developed to perform complicated jobs that reflect human brain and thoughts. If the algorithms are too much complex or can not be solved instantly then we can use such systems. Therefore the well intelligent system not only performs well but it has the capability to rectify any errors by himself if it occurs within his domain.

The examples of intelligent systems are Robotics, Business Intelligence …etc.

Question No: 119 (Marks: 2)

What is meant by semantic error ?

Answer:

It is an error which a developer encounters when a statement is executed but it was not intended by him (the developer). Such errors are very difficult to locate during testing. Mostly these occur during abnormal circumstances. It may be referred as the logical error.

Question No: 120   (Marks: 2)

What is best algorithm?

Answer:

Greedy algorithm is the best algorithm as it is n algorithm that always takes the best immediate, or local solution while finding an answer.

Question No: 121   (Marks: 3)

How can we include images in a web page using HTML and Java script?

Answer:

Images can be included in HTML by employing <IMG> tag, below is the format of <IMG>

<IMG src=URL, alt=text height=pixels width=pixels align="bottom|middle|top">

Question No: 122   (Marks: 3)

What are the Sub categories of Artificial Intelligence? Briefly explain any two.

Answer:

1. Robotics

These are the machines which are computer programmed and perform work which was previously done by humans. They can be found in the manufacturing industry, the military, space exploration and medical applications.

2. Expert Systems

These systems are designed to replace an expert. The medical expert system is an example of such system which can replace a Doctor/medical expert.

Question No: 123   (Marks: 3)

What are the steps of working of TCP and IP protocols in internet transmission?

Answer:

TCP divide messages in to many packets (capsulation) and sent these messages over the internet and IP route these messages on the internet to the correct destination and upon reaching the messages on its destination the messages are encapsulated.

Question No: 124   (Marks: 5)

What is ARPANET and who developed it?

Answer:

ARPANET stands for Advanced Research Projects. The initial purpose was to communicate with and share computer resources among mainly scientific users at the connected institutions. In the beginning it was connected four universities and enabled scientists to share resources.

It was headed by Dr. J.C.R. Licklider.

Question No: 125   (Marks: 5)

Define professional ethics and its benefits with an example?

Question No: 126   (Marks: 5)

Write JavaScript code for the following:

Make a function compareWithTen(value)
Compare the function argument with '10' and display a message whether the value is less than, equal to or greater than 10.

Question No: 127   (Marks: 2)
List down the names of processors (any four, from different manufacturers).

Question No: 128   (Marks: 2)
For what purposes FTP is used in networks ?
   FTP is a servise of internet. FTP was to transfer files between computer on ECP/IP network e.g:-simple commands allows the user to list, creators on a remote computer upload or downloads .Typical we transferring web content from the developers PC to the web servers.

Question No: 129   (Marks: 2)
What is the Data Normalization? Also define its goal.

It is to sort complex data into simple from. It uses to simplify the complex information to make it more user friendly.

Question No: 130 (Marks: 2)

Define the key weakness of the web?

The Web was designed for humans to read, not for computers to understand and manipulate meaningfully. As, computers language is different from human language, computer face great problems in dealing with the current text and graphics-based contact of the web.

Question No: 131 (Marks: 3)

What kind of new jobs are created because of computing? And which old professions are being eliminated?

Due to computing where people are getting benefits from automated system on the other hand the people that are with KHATA system or manual system and they do not now anything about computer are eliminated due to reasons before computer 4 people required in a office and now only 1 person required and in old system many people are writing the data in a registers and then its abosvery difficult to find the specific record but with the help of database we can store more than 1000 of information and only one person is managing the whole data that is DBA.

Question No: 132 (Marks: 3)

What is the difference between Internet and Intranet ?

Intranet and internet are 2 domains that are very a like but often segregated in order to maintain security. Internet is where I am having exam now it provides access to the rest of digital world e.g:- world wide web .Intranet is a small varsim of this used by companies and is normally local, e.g:- only the people who work those have access to the information being shared on its seriver.There is one major distinction between an intranet and the internet the internet is an open, public places while intranet is in only in pravite places.

Question No: 133 (Marks: 3)

Differentiate between onLoad and onUnload

Onload executes the specified javascript code when a new document is loaded into a windows.

ONUnload executes he specified javascript code when a user exits a document.

Question No: 134 (Marks: 5)

Mention any five applications of Artificial Intelligent System.

1)Medical Diagnosis 2)Robots 3) Games 4) Business intelligence 5)Image Recognition.

Question No: 135 (Marks: 5)

Explain function arguments with the help of an example?

Arguments un a function are comma separated list of data enclosed in braces. It defines interface between the web page and the function. Arguments values are passed to the function by value or by reference. This data which have been passed to function is then used in that function for some specific purpose. Example Function sold (a,b)//a function 2 arguments a and b ……..

C=a+b;// here 2 arguments which have been passed to functions are being used return c;}

sum1=add (2,4);// the function is being called with 2 integer arguments 2 and 4

sum2=add(9,6);// the function is being called with 2 integer arguments 9 and 6

```
document. Write(sum1);
document. Write(sum2);
```